## CLAIMS

1. Membrane vesicle **produced by a genetically modified cell, said vesicle comprising** a recombinant molecule of the human major Histocompatibility complex.

2. Vesicle according to claim 1, characterised in that the recombinant molecule of the major Histocompatibility complex is a class II molecule.

3. Vesicle according to claim 2, characterised in that the recombinant class II molecule of the major Histocompatibility complex is an α chain.

4. Vesicle according to claim 2, characterised in that the recombinant class II molecule of the major Histocompatibility complex comprises an α chain and a β chain.

5. Vesicle according to any of claims 2 to 4, characterised in that the recombinant class II molecule of the major Histocompatibility complex is chosen from among the serotypes DR1 to DR13, preferably from DR1 to DR7.

6. Vesicle according to claim 1, characterised in that the recombinant molecule of the major Histocompatibility complex is a class I molecule.

7. Vesicle according to any of claims 1 to 6, characterised in that it contains a complex between a defined peptide and the recombinant molecule of the major Histocompatibility complex.

8. Vesicle according to any of the preceding claims, characterised in that it also contains one or more heterologous molecules of interest.

9. Vesicle according to any of the preceding claims, characterised in that it also contains a peptide or a recombinant protein enabling its purification.

10. Vesicle according to the preceding claims, characterised in that it comprises a tracer.

11. Vesicle according to any of the preceding claims, characterised in that it is essentially free of molecules of the endogenous MHC.

12. Membrane vesicle characterised in that it is obtained from a **genetically modified** mastocyte or mastocyte derived cell, and in that it contains one or more heterologous molecules of interest.

13. Vesicle according to claim 12, characterised in that the molecule of interest is a protein, a polypeptide, a peptide, a nucleic acid, a lipid or a substance of chemical, biological or synthetic nature.

14. Membrane vesicle according to claim 13, characterised in that the heterologous molecule is a molecule of the major Histocompatibility complex, an antigen, a receptor ligand, a ligand receptor, a nucleic acid, a pharmacological product, a tracer and/or a purification peptide.

15. Vesicle according to claim 14, characterised in that it expresses a ligand receptor, and in that it contains another heterologous molecule of interest.

16. Membrane vesicle **according to any one of the preceding claims**, characterised in that it contains a recombinant fusion molecule between a polypeptide of interest and an addressing signal.

17. Exosome-producing cell, characterised in that it contains one or more recombinant nucleic acids coding for a molecule of the major Histocompatibility complex.

18. Cell according to claim 17, characteried in that it is a mastocyte cell.

19. Cell according to claim 18, characterised in that it is mastocyte line of a basophilic leukemia, in particular of the RBL line, preferably RBL-2H3.

20. Cell according to claims 17 to 19, characterised in that it comprises a recombinant nucleic acid coding for an α chain and/or a β chain of a class II molecule of the major Histocompatibility complex and/or for a class I molecule of the major Histocompatibility complex.

21. Method for producing **a membrane vesicle according to any one of claims 1 to 16,** containing a defined recombinant molecule, comprising the following steps :

a) culture of a mastocyte or mastocyte-derived cell containing a recombinant nucleic acid coding for said defined recombinant molecule,

c) recovery of the **vesicles** produced by said cells, these **vesicles** containing said defined recombinant molecule.

22. Method according to claim 21, characterised in that it comprises an intermediate step b) during which the cells are stimulated to induce and/or increase the secretion of exosomes.

Cnty Sub Q7

23. Method according to claim 21 or 22, characterised in that the defined recombinant molecule is exposed outside the exosome, or is included, wholly or in part, in the cytosolic fraction of the exosome.

24. Method according to any of claims 21 to 23, characterised in that the recombinant molecule is a molecule of the major Histocompatibility complex, an antigenic molecule, a receptor ligand, a ligand receptor, a purification peptide or any other polypeptide of interest.

25. Method according to any of claims 21 to 24, characterised in that the nucleic acid also comprises a region coding for an addressing signal towards the membrane compartments of the mastocyte.

26. Method for preparing an exosome containing a peptide-MHC complex of defined composition, characterised in that it comprises :

- culture of an exosome-producing cell containing one or more recombinant nucleic acids coding for a defined recombinant molecule of the MHC,
- stimulation of the cells to induce release of the exosomes,
- recovery of the exosomes produced by said cells, these exosomes expressing on their surface said defined recombinant molecule of the MHC, and
- placing the exosomes in contact with the peptide or peptides.

27. Method for preparing an exosome containing a peptide-MHC complex of defined composition, characterised in that it comprises :

- culture of an exosome-producing cell containing one or more recombinant nucleic acids coding for a defined recombinant molecule of the MHC and a nucleic acid containing a region coding for a defined recombinant peptide,
- stimulation of the cells to induce release of the exosomes
- recovery of the exosomes produced by said cells, these exosomes expressing on their surface said defined recombinant molecule of the MHC associated with said recombinant peptide.

28. Method according to claim 27, characterised in that the nucleic acid coding for the recombinant peptide codes for a derivative of the li invariant chain, in which the CLIP region has been deleted and substituted by said peptide.

29. Method according to any of claims 26 to 28, characterised in that the producer cell is a mastocyte or mastocyte-derived cell.

30. Method according to any of claims 26 to 29, characterised in that the producer cell is essentially free of molecules of the endogenous MHC.

31. Method for modifying the composition of an exosome, comprising :

- insertion into an exosome-producing cell of a nucleic acid coding for a defined molecule, bound to an addressing signal in the membrane compartments, and

- production of exosomes from said cell.

32. Composition containing one or more membrane vesicles according to any of claims 1 to 16.

33. Use of a vesicle according to any of claims 1 to 16 for the production of polyclonal and/or monoclonal antibodies.

34. Method for producing antibodies, comprising immunisation of an animal with a vesicle according to claim 7 and recovery of the antibodies and/or cells producing antibodies or involved in the immunity response.

35. Method according to claim 34 for the production of monoclonal antibodies, in particular specific for the MHC-peptide association.

36. Use of an antibody obtained according to claim 34 or 35, or of a fragment of said antibody, for the detection, in a biological sample, of the presence of corresponding specific antigens.

37. Use of an antibody produced according to claim 34 or 35, of a fragment of said antibody, or of a vesicle according to claim 1 for the preparation of a therapeutic composition intended to inhibit the interaction between the receptor of a T-lymphocyte and the MHC-peptide complex for which it is specific.

38. Use of a membrane vesicle according to any of claims 1 to 16 for the detection **in vitro or ex vivo** of partners specific for a protein molecule in a biological sample.

39. Use according to claim 38 of an exosome carrying a MHC-peptide complex for the detection of T-lymphocytes specific to this complex in a biological sample.

40. Use according to claim 38 of an exosome carrying a TcR receptor for the detection of peptide-MHC complexes specific to this receptor in a biological sample.

41. Use according to claim 38 of an exosome carrying a ligand receptor for the detection of the presence of said ligand in a biological sample.

42. Method for the detection **in vitro or ex vivo** of the presence of T-lymphocytes specific to antigen-MHC complexes in a biological sample, comprising placing said sample in contact with an exosome labelled according to claim 7, containing said antigen-MHC complex, and evidencing the labelling of T-lymphocytes in said sample.

43. Use of a vesicle according to claim 7 for the clonal amplification and/or *ex vivo* stimulation of cytotoxic and/or auxiliary T-lymphocytes.

44. Use of a vesicle according to any of claims **12** to 16 for the preparation of a composition intended to vehicle said molecule towards a cell.

45. Composition containing one or more **membrane vesicles** immobilised on a support.

46. Use of a membrane vesicle according to any of claims 1 to 16, in particular in immobilised form on a support, for the purification of cells.

**47. Composition according to ~~Claim~~ 45, comprising one or several membrane vesicles immobilized on a bead, particularly a latex bead or a magnetic bead.**